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EDUCATION

A MONTHLY MAGAZINE

DEVOTED TO THE SCIENCE, ART, PHILOSOPHY AND LITERATURE OF EDUCATION

FRANK HERBERT PALMER, A. M., EDITOR

CONTENTS

PAGE

College Records and Success in Life. *Hugh A. Smith.* 513

The Individual and Knowledge. *Professor Max Schoen.* 530

The Personal Element in Education. *Professor Wendell S. Brooks.* . . . 535

A Non-Technical Discussion of Mental Testing. *Frank S. Freeman.* . . 537

The Symbolism of the Colors. (Poem.) *Robert Shailor Holmes.* . . . 548

Teacher Estimates of Ability. *Ira A. Flinner.* 549

The Supervision of Instruction. *Bertha E. Holmes.* 556

American Notes—Editorial. 569

Book Reviews. 573

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OWNERSHIP MANAGEMENT

EDUCATION

Devoted to the Science, Art, Philosophy and Literature of Education

VOL. XLVII. MAY, 1927 No. 9

College Records and Success in Life

HUGH A. SMITH, DEPARTMENT OF ROMANCE LANGUAGES, THE UNIVERSITY OF WISCONSIN, MADISON, WIS.

TO attempt to enclose highly variable human nature in statistical formulæ, in order to draw therefrom rigid mathematical deductions, is doubtless a hazardous undertaking. But, since almost everyone is accustomed to express himself on the matter of this title without regard for any data, it should not be thought too reprehensible to offer an opinion that is supported by objective evidence.

There has long been a striking paradox to explain in this country, if we compare the public's attitude toward college attendance with the opinions most often expressed on the value of a high college record. Our young men and our young women, both the fit and the unfit, are obsessed by the desire for a college degree. The rush into our universities threatens to deplete some very useful occupations, and, if it goes on increasing, there will soon be no "hewers of wood" without an engineering diploma, and even the "drawers of water" will have at least a B.S. in home economics.

One might well think, then, that a good record in college or university would be considered extremely valuable. But here is the paradox. In the opinions most frequently voiced, the public's contempt for high scholastic marks, as a measure of

later success, would seem almost as great as its desire to take a college course.

The satiric editor, who points to some successful man with a poor college record, or who aims a few shafts at the college graduate armed only with his diploma *cum laude,* is a mere dispenser of orthodox public gospel. John's father almost invariably applauds such attacks, even while cheerfuly paying the monthly deficit in his son's college allowance; just as Mary's mother will likely sigh acceptance of the bitterest diatribes against the effectiveness of our educational system, when she finds them published in her home journal by some fretful schoolman, who despairing of the long, monotonous pull up the unroyal road of sound learning, seeks to attract attention by kicking over the traces. Certainly the general public grasps eagerly at the idea that both genius and practical ability are refractory under college discipline, and fail to make good in scholastic distinction. A literary figure, without a deplorable college record in his past, labors under a severe handicap; the reviewer has nothing interesting to say about his life. And the definition of a self-made business man seems to exclude the aid of the college professor.

The attitude in college circles is not notably different. The student's traditional motto is, "Do not allow your studies to interfere with your education"; and from the childish freshman, at his first "mixer," to the still more childish "Old Grad," at the home-coming fraternity reunion, they all talk worshipfully of College Life, although what is meant exactly by College Life, and how different it is from other life, when separated from its intellectual side, or, if it were different why it should be valuable, are matters so vague that there are no serious treatises on this subject; and, by common consent, the mysterious realm of College Life is left as the province of the popular novelist, a sort of American Montmartre in which he may amaze or scandalize at will the credulous bourgeois. Apparently it is a world where human beings may do anything except their regular work in a creditable way.

The whole subject would seem to deserve a more thorough investigation of the facts. Is it really true that, when a man has excelled most of his fellows for four years in his college course, we cannot argue that he will most probably continue to excel them in later life? Or are the examples of failure to excel later, and the other cases where men with poor college records have achieved striking success in after life, only the rare exceptions to a general rule, the more widely exploited because they are exceptions?

Some progress has been made in partial investigations. Neither intelligence tests nor common-sense observations have shown any mental relapse or tendency to go into reverse intellectual gear between the ages of seventeen and twenty-one. On the contrary, so long as the human machine remains on the educational highway, from kindergarten to professional graduation, every test shows that it drives forward with a speed and reliability strikingly in accord with its original horse-power. Eighty per cent of the upper fourth in high school marks remain in the upper half during their college careers, and eighty per cent of the lower fourth in high school fail to rise above mediocre scholarship in college. The idea that a boy loafs in his academic course because it is theoretic, and wakes up in his practical professional training has been proven fallacious.

Finally, some attempts have been made to show that a corresponding relation in eminence exists between college careers and success in life. But no one seems to have published the results of any study sufficiently rigorous and extensive to furnish an argument that should be conclusive. Several years ago it fell to the lot of the writer to take part in an investigation of this nature, which would seem to offer abundant evidence, and in which the element of success was largely decided by a non-academic jury.

This study was made of the records of the alumni of one of our large universities. It included all the graduates of the bachelor's course for a period of forty-five years. The

most recent class studied had gone out fifteen years before, so that practically all of its members had had time to find their position in life.

The plan adopted made two things necessary: the determination, first, of the average scholastic mark in college of all of these alumni; and second, an inquiry into, and as exact an estimate as possible of their success after leaving college. The total number of persons included was somewhat over 1800.

It should be said that two years were taken for this work, that it was aided by fairly complete alumni records, and that numerous graduates, as well as many others, were asked by letter to give their frank opinion on the careers in life of the various members of these classes. The committee made no attempt to define success, leaving this to the judgment of those asked to cooperate.

Presumably, since the purpose of the investigation was usually known, there may have been an incentive to lay stress on intellectual and professional achievement and eminence as a citizen, rather than on success merely in making money, but the answers make it clear that an intelligent public will generally agree on what constitutes success. And incidentally it was proven that the "Old Grad" who comes back for the game, with something in his hip-pocket perhaps, and, certainly with a distorting haze before his eyes, when he compares in retrospect college life and college work, has a clearer vision after he returns home and is asked to give his sober judgment on a serious matter. In any case it is probable that no jury with all the facts before it would disagree with the findings.

Moreover, the striking accord between the list made by averaging the grades and that obtained by compiling information concerning success so impressed the committee that it restricted its authority largely to certification of this agreement. If a man was high in one list he was almost invariably high in the other; and if low in one, low in the other. This

situation was repeated with such monotony, in the 1800 names, that the temptation became strong, when one factor was known, to accept it as a certain indication of the other. If, for example, the college record of number 500 happened to be misplaced, but the information showed that he had clearly won no distinction in life, it hardly seemed worth while to search for the missing record. Experience with hundreds of others made it sure that he could be classed, with ninety-nine per cent of certainty, in the group with low marks.

In the case of one such man, of whom it was known only that he was selling chicken-wire fence in a small town, a wager, by the sporting member of the committee, of one hundred to one, that his college grade, if found, would be below 87, went untaken; the mark proved to be below 83.

On the other hand, if a man showed a grade of 93, it came to seem almost superfluous to consult alumni records and write letters in order to learn that he held a position of importance or eminence. It demanded an almost stupid persistency, after seeing the results in hundreds of cases, not to assume the one factor, when determined, as a certain index to the value of the other.

A few representative figures will show the reason for these convictions. For the first two classes of 54 graduates, a number of persons were asked opinions concerning the career and success of the members, and eight of these alumni were quite generally agreed on, and one other was suggested by at least two correspondents, as the most worthy. The college marks showed that the eight universally approved had the highest averages in the two classes, six being over 91 and two being 89. The other one, who won partial approval, had a mark of 85, which was no higher than that of four or five not suggested as eminent.

From a later class, of 75 members, a final list was submitted to a number of people: eleven won general approval, as to their eminence in life, and five others received two or

more votes. Ten of the eleven were the first ten in the class in grades, all averaging above 90.

The eleventh, having a mark of 85, should be called a genuine exception, unless we are willing to admit that political preferment escapes the law of scholastic ability. This, one would hesitate to assert, but it is of interest to note that most of the relatively few exceptions were found among the politicians. It does not seem certain that a high college record is an asset in getting votes.

However, lest these should be thought exceptional, ten consecutive classes are taken from the middle of the list and averaged together. They show a total of 550 students. Of these 550 graduates there are two lists of names, taken from the records of the committee. The one is a list of ninety-three who had the highest grades in their classes. The other is a list of ninety-seven who were considered the most worthy, successful, or eminent, according to information compiled from various sources. The point to note is that these two lists *contain 87 names in common.* This means that of the 93 with the highest marks only six failed to make good in later life; only one out of fifteen has not in later life maintained the distinction shown by his marks during the four years of his college course.

More striking still is the showing of the second list. The total number of those in the lower group is 467. Only one out of forty-six of these has attained distinction in later life. When this is compared with the fourteen out of fifteen attaining such eminence from the list of ninety-three who had the highest grades, one can see the full significance of college marks as an index to later career.

These statistics clearly seem too unanimous. It hardly appears probable that so rigid an agreement between college records and career in later life would exist. There are scarcely enough exceptions to prove the rule. In any case, it was deemed desirable to test these results by some other standard.

The one readily available, and the most likely to win at least a measure of approval, was to see how many of the committee's selections were found in *Who's Who* in a number of representative classes.

Taking three of the earliest classes and counting both men and women, we find a list of twelve with the highest college records, out of a total of ninety-three. Of these twelve, nine appear in *Who's Who*. Of the eighty-one others with lower scholastic records, only one is in *Who's Who*.

A fairer test would be to consider the men alone, since comparatively few women appear in *Who's Who*. Doing this for five of the middle classes, in which the total number of men is exactly 200, we find twenty-eight ranked, on scholastic records, in the high list. Of these twenty-eight, eighteen are found in *Who's Who*. Of the 172 not in the highest list, only two are in *Who's Who*. In the eight classes examined, then, forty are found in the list of highest college marks, and of these forty, twenty-seven are listed in *Who's Who*. The number of those not in this highest list in scholarship is 253, and of these only three are to be found in *Who's Who*.

It is seen, then, that the test by *Who's Who* is no less conclusive than the figures taken from the committee's results. For a name on the high list in scholarship, the chances of appearing in *Who's Who* are more than fifty times as great as they are for a name on the lower list. Consequently these figures, if one accepts the two tests as even approximately fair standards, seem to prove conclusively that a record in college studies, high enough to confer distinction among a man's fellow students, has been a remarkably reliable indication that the holder would win distinction in later life; while it is demonstrated that the failure to win such distinction in college studies indicates, with striking regularity, a similar career in life.

The unanimity of these statistics naturally leads one to ask why should not a college record be considered a test, by far the most exhaustive and reliable known, to indicate the future

career of a young man? The average student, in a university during four years, is under at least twenty-five or thirty different instructors. He meets these more than 2000 times during these four years. In most of these 2000 meetings the student is under observation, and is tested in all possible ways, and it is the impressions from these interviews and these examinations, recorded day by day and term by term that make up his scholastic record. Many qualities of the student are no doubt reflected in these marks, and some certainly count more with one instructor than with another. However, those that count most with every instructor are ability to think, earnest and constant work, punctuality, and reliability in the performance of all duties, and it is quite safe to say that the higher ten per cent of the class, winning distinction, must have all those qualities. The records show that a single very low mark or failure is sufficient to bar a student from the highest list. But are not intelligence, hard work, faithfulness, and persistency the four corner stones on which practically every sound success in *life* must be built? Where is there, outside of his college course, another four years in a young man's life where these basic qualities of a successful later career are so constantly tested, and the results so carefully recorded? Where can another prophecy of the future be based on so much careful data?

But at this point it is necessary to lay aside the scientific ruler and compass and look into the humanistic horoscope; or, it will be said that these data and these mathematical deductions do not take into account the variable, human possibilities in this rapidly changing world of ours. Our statistics have dealt with those who graduated 25 to 50 years in the past, when social and educational conditions were different, and when a college training led more frequently to a few professions; and our investigation itself was made a decade ago. This permits two possible objections against accepting the above picture as representative today.

First, it might be alleged, or rather it is being abundantly

alleged, that we have, in the past decade, been submerged by a flood of national prosperity and materialism, and that success at present means to all of us money and luxury. If one asked, then, today, even a broadly intelligent public, the question asked ten years ago, concerning the success of our college graduates, it might be held that the choices would no longer fall so largely on the ten or fifteen per cent of best minds, as shown by the highest college records.

The second objection rests on assertions which are more frequently made in academic circles but which are none the less vociferous, and possibly quite as impressionistic. Recently a whole squadron of college presidents, deans and professorial lecturers, who form our wide-ranging flotilla of light-armored cruisers, in the educational seas, has been bombarding us with claims that higher education has suddenly broken down, has failed to keep pace with our rapid civilization, and is no longer effective; and that a real revolution is necessary to restore it to its once brilliant state of efficiency. Obviously, if all this be true, and if a college education is not merely a barometer but a real factor of success in life, our evidence might not apply to present-day conditions.

Statements that luxury and materialism are destroying our former standards are too abundant to demand, or permit, recital here. Perhaps the most vital of these accusations is contained in a recent article in Harper's Magazine, by Katheryn Fullerton Gerould, called the *Plight of the Genteel.* The gist of this is that "the genteel," which she identifies with the cultured middle-class, "were formerly peculiarly fortunate, in that their desires marched with their incomes. Our plutocracy has recently imposed a social standard that takes count only of purchasable things, and this affects all society, the rich, the middle-class, and the wage-earner. There is no longer either opportunity or desire for culture, intellectual devotion or contentment without wealth," and the article ends on the despairing note that "somewhere in the republic other than financial ratings should prevail. The class known as

the genteel was the chief preserver of such admirable discriminations, and it is rapidly disappearing."

Such arguments touch responsive chords in most of us at the present time. In fact, the serious, older generation, at least, does not require arguments to prove that we are all money-mad. What we do need is assurance that we still have sufficient sanity to hope for a cure, with proper treatment.

Perhaps a less immediate and subjective view would give us such hope, both for our wayward social conditions and for the parlous state of our higher education. At least this is the most obvious deduction to be made from the readings of our social and educational temperature for the past hundred years, in one of its best barometric records; namely, the large volume of *Representative Phi Beta Kappa Orations,* that have been delivered from 1837 down to the present day. The state of society and of higher education are the constant themes of these addresses, and it is needless to say that the tone of a Phi Beta Kappa orator is sober, if not pontifical, and that among the speakers are to be found the best-known names in social and educational fields: such as Ralph Waldo Emerson, Wendell Phillips, Bliss Perry, Charles W. Eliot, Barrett Wendell, Woodrow Wilson, and many others. Their utterances, therefore, would not be classified as sensational or irresponsible.

If we adopt a purely objective and judicial attitude, in comparing these numerous past diagnoses with our present symptoms as recorded in the bulletins of our educational clinics, there would seem to be no real reason to despair of having still a fairly long and active social and educational existence, although we may never hope to be entirely well, or even long out of danger.

In *1837,* according to Horace Bushnell, "it is a shameful fact that we are now turning our policies and public measures more and more on questions of money"; and he seeks to encourage those who, "in our present crisis have ceased to hope for their country"; although he himself despairs of the

American "who will hire a cheap lawyer for ten or twenty dollars for a few hours, but will pay only two dollars for a whole winter's work to a professor for his son." Obviously, at that time, the income of the "genteel" professor did not march very fast.

In the same year, Emerson speaks of "the sluggard intellect of this continent," content "with mechanical skill," and of "public and private avarice which make the air we breathe thick and fat." The only consolation he can offer to the scholarly genteel of Mrs. Gerould—ninety years in advance, it is true—is that "they must often accept poverty and solitude, and resist vulgar prosperity." We may infer, then, if income and desire were kept abreast in those days that it was due to the very tight rein on desire.

In 1868 there is a special crisis in our moral tone and taste, and particularly, "the noting and recording of sensuality threatens us with a new and decadent literature." And this is fifty-eight years before a New York editor is arrested in Boston, on the charge of recording such life in a Missouri town.

In 1876, according to Charles Kendall Adams, President of Cornell and of Wisconsin Universities, "the calls of ambition are toward the forum and the market, and the voice of educators is drowned amidst the coarse jargon of affairs. Scholarship has been losing ground from year to year, in the favor of the people. The prevailing mercenary spirit has spread its influence, colleges have declined in their standards, and no longer attract or train the brightest minds, but draw only those of mediocre ability." And this was exactly fifty years ago, at a time—we are accustomed to think—when only the intellectually fit went to college.

In 1881, the pace which we now consider slow seemed bewildering to Charles Henry Bell. "The American grudges the time needed to take nutriment and resents five minutes' delay as a personal injury. His horses and yachts must be the fastest, and his greatest anxiety is to get through even

his pleasures as rapidly as possible. The humble industry of the hands is no longer respected; the god of financial success alone is worshipped; not only is speculation rife, but the dice is cogged and the public robbed in the craze for wealth." Since that time we have invented new speed-wagons and styles of gambling, and to an extent, a new vocabulary, but we seem to be doing very much the same things today and hardly describe them any better.

In 1892, our social and educational health was suffering from such painful attacks that "some declare the patient hopelessly gone." Yet we recovered so completely from this attack that we have quite forgotten it.

In 1902, the moral tone of our universities is said to be even lower than that of the outside world, and the deepest concern is expressed over the materialism and practical values that have come to dominate higher education.

In 1909, outside interests are supreme, "devotion to study has given way to the pursuit of pleasure and environment is pressing us on at an unprecedented rate." It is interesting to note that these last assertions are good first-page copy in our educational journals of 1926.

All this was in the peaceful days before the Great War, and the passages cited are but slight suggestions of the fully developed theses, maintained in these analyses of our past social and educational life. That this life was constantly menaced by the same ills we find today is asserted at least every ten years, and in a number of instances a real crisis is found. It might be said that, in attempts to identify these past crises in our national life, three experts in American history were appealed to, without complete success.

That our higher education has suddenly broken down, through overloading and in ability to keep pace with our rapid material and social progress, is not then a new claim. In fact, we find regularly two complaints: one that our education is out of step with our present-day life and should be equipped with more modern methods and content, and the

other that it has kept step only too well and should return to the proved and saner disciplines and subjects of the past. If we balance without prejudice these contrary claims they seem equally supported; our decision in favor of either would probably be a matter of prior personal conviction.

That the argument of overloading finds today responsive acceptance is natural. Since our personal happiness depends largely on our adjustment or our environment, the rapid acceleration in the mechanical development and in the moral pace of modern life has certainly made the older generation acutely uncomfortable. It is nervous work, for those past fifty, to learn to play golf and to drive, or dodge, seventy horse-power cars; or perhaps to wear knee-length skirts and to dance the Charleston. But the younger generation does not find it so, and nothing proves that their education is less efficient in fitting them for their environment than our own was for our generation. Human intelligence probably creates its mechanical and social environment, and makes its adjustments, with fairly equal balance. The same engineer who puts seventy horse-power into the engine equips the car with four-wheel brakes.

But, at most, the difference from the past is one of degree only. The same situation has always prevailed. Each generation praises, and regrets, the passing of the age in which it was reared and received its freshest impressions, and is sure to criticize the age of its sons and deplore the loss of its ancient virtues.

Henry Adams in his beautiful book, *Mont St. Michel and Chartres*, begins one of his chapters with this statement: "The nineteenth century moved fast and furious, so that one who moved in it felt sometimes giddy, watching it spin; but the eleventh moved faster and more furiously still."

In the twentieth century, we are already forgetting the speed of the nineteenth and probably never conceived such an idea with regard to the eleventh, although the Crusades may have caused greater turmoil than our recent war. The point

is that contemporary civilization always seems to be running away to the eyes of its elder judges, and no epoch is fully comprehended until it is seen in past perspective; judged after one hundred years all revolutions become evolutions. Doubtless, in another century, these experts in American history will be at a loss to account for any special reason for our present bewilderment.

This does not mean that all is right and that we have only to be satisfied. The danger of materialistic standards is not illusory, but it is not peculiar to any period, nor perhaps to any society. It must always be fought and repelled. Humanity, in every age, and however quixotic, is squired by a Sancho Panza, who thinks only of a hot supper and a soft bed at the next inn.

Also, we shall never, it is hoped, be satisfied with our education, but there seems to be no genuine, objective evidence to prove that it is less in accord with life, or less efficient, than at other periods in our history.

The presages of disaster that we have been hearing recently, and those fiery proponents of revolution rather than improvement and evolution, are recurrent phenomena in the universe of education. They are the tangential comets, flaming and gaseous, thrown off by the rapid spinning and high temperature of the educational globe. Ever so often, their unstable, elongated orbits bring them, in spectacular display, into the heavens of the more orderly moving worlds, and the impressionable see them as portents and beat the drums, but just as regularly they disappear and are forgotten.

If we would resolutely reject emotional impression, then, in judging the social and educational conditions of the present, and apply the objective tests that we are accustomed to demand in treating matters in which our own feelings are not involved, we should find it difficult to prove that we are faced by a unique crisis, either in life or in higher education, and certainly there would be no reason to think that college education today, or in the future, will be a less potent influ-

ence in a young man's life, or that a college record will be a less reliable index to his later success.

However much we may seem, in moments of great national prosperity, to grasp at luxury and pleasure, it is unbelievable that the world will ever refuse to recognize the superior worth of those who reject pure self-indulgence, and who render service to society or contribute to its higher development. And even if the general public should accept purely materialistic standards, which is unlikely, the superior man is entitled to judgment by his peers, and should be contented with their approval as against the vulgar verdict.

The qualities that make for this better success of altruism and leadership are probably at no other age so strong and so easily cultivated as in the years of our college youth. It is then that "the wind sits in the shoulder of the sail"; this is the flood tide in the affairs of men that must be seized to carry on to the fortune of higher values. Youth is the age of idealism and generous enthusiasms, less hampered than in middle life by cares of money, business, family, or personal selfishness. There is every reason, therefore, to believe that this is the time to develop these generous qualities that are so necessary to higher success, to attach them to a worthy cause, and to fashion the intellectual and practical faculties to their service. It should be the crucial period of life; there are real data to show that it is.

With all the statistics, then, showing conclusively that a college record has been a reliable index of career in life, and with no authentic evidences to indicate that a college course will be a less valuable factor, or a less certain barometer, in the future, we may well be surprised at the paradox of popular contempt for high scholastic records.

One will doubtless be tempted to look for an explanation of this contempt in the attitude of the business man toward college education in general. Most frequently this is the opinion of a generation brought up when a college degree was less common, and it is held by those with a unique opportunity

to win wealth by exploiting the natural resources of a new country. It is not surprising that they should hold higher education unnecessary for business success, and if a college education in general is thought of little practical worth, it is not likely that a high record in college will be more esteemed.

However, there is probably a deeper cause. This attitude of contempt may well be a part of our national inheritance, or rather it is the price we have had to pay in temper and outlook for the winning of this rich continent. It is the natural point of view of the pioneer. No one will deny, I suppose that we must assume for those who have mainly settled this country a certain original rashness of temper. This would be true not only for the early colonists who risked the terrors of the unknown voyage, but also for the later pioneer, who fought with the wilderness and savages for the rich Mississippi and the gold of the Far West.

For all there were possibilities of great reward, but they must stake their lives, and they might not, and did not, always win. Chance, or luck, an arrow, or an accident, would often spell disaster or success. The spirit this demanded and engendered, which might be defined as the willingness to take a chance, has been deeply stamped on American life of the present generation. It will probably be somewhat effaced by time and different conditions, but at present it is writ large. It is not surprising, therefore, that patient and thorough training should be at a low premium with us, and that it should be reflected in our attitude toward education.

However, these explanations, right or wrong, are of small importance. The vital facts are the close relation, shown to exist, between college records and success in life, and the reasons to believe that this connection is fundamental and durable. This does not imply belief in any rigid doctrine of intellectual predestination. Self-determination does not depend on intellect alone. There are always those who, through indolence or weakness of character, fail to win to the celestial portals; and there are others, like the charmingly pagan Au-

cassin, of the old French *chante-fable,* who light-heartedly prefer to go "where go the other fine lords and the beautiful ladies" to the lower and less austere realm. All humanity cannot be enclosed in a single formula.

But whatever questions we may have as to the approximate perfection of such investigations as the one presented, or of arbitrary tests similar to that of *Who's Who,* we must admit that these are the standards of success most frequently set up, and that a variation in the proportions shown by our figures does not invalidate their general truth. The lesson carried should not be lost. If a student belongs to the highest tenth of his class, in general to the group marked *excellent,* his chances of achieving a career in life distinguished by the approval of his fellow men are forty times as great as they are, on the average, if he belongs to the lower nine-tenths; and further the probabilities of his name being found in lists like *Who's Who* will be fifty times as great. Is there another test in a young man's life that affords as certain a prophecy of the future as his four years' college record?

The Individual and Knowledge

PROFESSOR MAX SCHOEN, DEPARTMENT OF EDUCATION AND PSYCHOLOGY, CARNEGIE INSTITUTE OF PSYCHOLOGY, SCHENLEY PARK, PITTSBURGH, PA.

"The cultivation of those sciences which have enlarged the limits of the empire of man over the external world, has, for want of the poetical faculty, proportionally circumscribed those of the internal world; and man, having enslaved the elements, remains himself a slave."

"From what other cause has it arisen that the discoveries which should have lightened, have added a weight to the curse imposed on Adam?" —*Shelley.*

". . . That the attributes of ultimate reality are values, and that they may be classified under the heads of goodness, beauty and truth, 'a threefold cord not quickly broken,' seems to be generally accepted by the deepest modern thinkers. For example, Mr. Bradley writes, 'Goodness, beauty and truth are all there is which in the end is real. Their reality, appearing amid chance and change, is beyond these, and is eternal. But in whatever world they appear, that world so far is real.' —*William Ralph Inge.*

I.

The Nature of Knowledge

KNOWLEDGE is not a gift of the gods bestowed upon man for his benefit or enjoyment, nor did man deliberately set out to acquire knowledge for its own sake. It is rather the fruit of the tree of life itself.

Knowledge is power, and life is interaction between the organism and its environment. Life is not adjustment of inner to outer, as was said, but adjustment of outer to inner, in that the inner uses the outer as means to an end, namely, for maintaining itself. And the degree and type of adjustment is dependent upon the degree and type of knowledge that the inner possesses about the outer. Where knowledge is absent the inner is at the mercy of the outer. Where knowledge is partial the inner and the outer are, at best, more or less in harmony with each other. But where knowledge is complete, the inner pre-

dominates over the outer, and there is full adjustment. In the first case, the organism is a slave to its environment and has but mere *being,* existence. In the second instance, where the organism exerts some effect upon its world, where it not merely is *influenced* but also *has influence, mere being* rises to *self-being.* In the third case the organism is master of the environment, and there is full self-realization.

Knowledge is because life is. Life could not be life without acquaintance with its world. Life could not be self-being without intimacy with its world. And life could not be self-becoming without mastery of its world. Science, philosophy and art, the names we give to the accumulated knowledge of the world, are not artificial structures, but had to be in order for life to be. They mean acquaintance with, intimacy with, and mastery of life's tools and materials. They mean the emancipation of the human mind from the tyranny of matter. Primitive man, whose knowledge of the science, the philosophy and the art of nature was imperfect, was burdened with natural fears. Our imperfect knowledge of the science, the philosophy and the art of industry creates economic fears. Our imperfect knowledge of the science, the philosophy and the art of knowledge itself creates educational fears. And our imperfect knowledge of the science, the philosophy and the art of education in economic, social and spiritual matters, leads to the imperfect preparation of the individual for life. Since life gave rise to science, philosophy and art, the greater the perfection of these the more abundant will be life.

II.

The Unity of Knowledge

The farther that the human mind penetrates into the nature of the universe in which it dwells the more aware it becomes that underneath the apparent diversity of animate and inanimate things there is a fundamental unity, and that beneath the apparent discontinuity of phenomena there is a fundamental continuity.

All variety of nature about us, gases, liquids, solids, earth, sun, moon and stars is fundamental unity in atomic structure, and the variety of atoms in fundamental continuity beginning with the one-electron atom of hydrogen up to the ninety-two electron atom of uranium.

A variety of cells produces the unit animal, and from the amoeba to man there is a continuous progression from the simple to the complex and from the undifferentiated to the highly differentiated. A variety of reflexes gives rise to a unit of behavior, and from the simple and fixed behavior of the lowest form of life to the complex and plastic behavior of the highest form of life, there is an unbroken series of links. From a variety of sense impressions there emerges a unit of thought and from the vague sensation to the highest form of creative imagination there is an uninterrupted sequence of steps.

Finally, there is no clear cut demarcation between the living and the non-living, the conscious and the non-conscious, the mental and the non-mental, the intelligent and the non-intelligent. All surface variety is basic unity, all apparent discontinuity is fundamental continuity. Nothing in life or matter is absolute disconnectedness. Everything is relative coherence.

Knowledge in all its variety is a unit, and one form of knowledge is related to every other form of knowledge, since the mind which gave them birth works as a unit and works in sequences.

Science, philosophy and art, dealing as they do with a unified continuous world, can not be disjointed, independent, or conflicting mental disciplines, but must be but different aspects of one and the same attempt of the human mind to see the world as it truly is, in all its aspects and manifestations.

Science is concerned with the world as it presents itself immediately to sense as isolated, objective existences. Philosophy begins where science leaves off, and considers "experience as a concrete whole." "Philosophy is the process whereby

man, driven by the necessities of his rational nature, corrects the abstractions of his first sense-steeped experience, and endeavors little by little, to bring to light and power the real . . . meaning of his structure and of the world in which he lives." Man does this because "the final effect of the deeds of his intelligence and will does not lie in the truth attained, or in the purpose realized, but in the recoil of these deeds upon himself."

Art supplements science and philosophy by contemplating the thing as it is in itself, as pure form or appearance, without asking what it is, as science, or what it means, as philosophy. Where science and philosophy deal with relationships, science with the relationship of causes and effects, and parts to wholes, and philosophy with the relationship of things one to another and the whole to the human being, the concern of art is with the thing itself, as isolated, self-sufficient and self-sustaining. In art the single becomes the symbol for the whole.

Art includes religion, for religion is the art of life. Just as art takes form, *as form,* and responds to it as beauty or ugliness, so religion treats human deeds *as deeds,* and estimates them as beautiful deeds or as ugly deeds. The holy is to life what the aesthetic is to things.

In sum, science describes by analyzing, philosophy interprets by synthesising, art impresses by contemplating and religion influences by evaluating. And all are but the varied phases of one unity and the successive steps in a progressive continuity. Full familiarity with the world includes its apprehension as an isolated fact, as science, its comprehension as interconnected meaning, as philosophy, its contemplation as appearance, as art, and its estimation as value, as religion. Knowledge, like life that gave rise to it and for the sake of which it exists, and like all of nature with which it concerns itself, is, in all its surface manifoldness, a coherent unit, basically.

III.

Life and Knowledge

While knowledge is for the sake of power, all knowledge does not necessarily result in power. Knowledge is like a tree, which begins as a root, grows into a trunk, and is known by the fruit that it bears. The root of knowledge is learning, its trunk is understanding, and its fruit is wisdom. Learning is knowledge *of*, or fact; understanding is knowledge *about*, or meaning; and wisdom is knowledge *through*, or value. And just as the root and trunk are for the sake of the fruit so learning and understanding are fruitful only when they lead to wisdom.

Human life itself begins as fact, as a mere existence, begets meaning as it flowers into individuality, and becomes a value as it ripens into full self-realization. Consequently, since life is complete only when the fact of *being* has matured into the value of self-becoming, so knowledge can be of service to life only as complete knowledge, that is when the facts acquired through learning have been tested by the fires of understanding, and emerge purified as wisdom. Only that knowledge, then, results in power which, having its roots in fact, bears the fruits of value. Without this fruition knowledge is but so much mental luggage that burdens life instead of helping it along towards its natural goal. Knowledge must become a value before it can serve the ultimate end of life, which is a value.

The Personal Element in Education

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A NEW baby is the center of attraction for everybody in the home. Father and mother are perfectly sure that no such baby was ever born before; visiting friends, even chance acquaintances, find their vocabularies (if not their integrity) challenged in expressing their admiration for the new-born wonder. When a baby was presented for his inspection, Henry Ward Beecher used to delight the fond parents by his facial expression and by his welcome gesture, though he stuck fast to the truth in his speech: "Well, that *is* a baby."

For two or three years—perhaps longer, if a younger brother or sister doesn't make an appearance—the baby continues to be the center about which the thought and many of the activities of the family revolve. His world is a purely personal one; things mean little to him, people mean much. Mother, father, perhaps a grandmother, or an uncle—what these folks do for him, how much time they spend with him, this is what makes the difference to him now.

As his world enlarges, it begins to include playmates from among the neighbors' children. Here too the personal relationship is strong. Then, he goes off to kindergarten, or to the primary at school. Only a parent can know the feeling of wonder and of hope which he experiences when his baby enters school. The boys and girls must grow up! We want them schooled and educated in a way that we cannot educate them at home; but in the parent's heart there's a prayer that the boy or girl may still be his own, that the school and the environment outside the home may not quite wean the child from the family. The father and mother are anxious that their personal relationship may continue.

In school many social adjustments must be made. At first, teacher takes the place of mother and in the elementary grades her patience is taxed in sympathizing with scores of little ones' problems—the solution of each being of momentous importance to the youngster involved. The "give and take" of older life is beginning to have meaning. Boys must draw in their elbows and girls must share their dolls. To attain these results happily, a teacher strong in the personal qualities is needed, for only such can observe the children through the school day, study their individual differences and mete out justice to them. The importance of the personal relationship of the teacher with the younger children is invariably appreciated when departmentalization of the school work is attempted too low in the grades. A teacher having four or five sets of pupils daily cannot come to know them intimately; the pupils in turn are bewildered by the different personalities as well as by the different methods of the half-dozen teachers presenting to them as many different subjects.

This very system becomes practicable, however, for pupils of the upper grades and of high school, because in the range allowed in moving from one teacher to another for different subjects of study the near-adolescent is likely to find in the variety one personality, contact with which will open up his own nature and stir latent forces that might have lain forever unused had he been limited to a single teacher. If there be among my readers any high school senior who has not yet felt that spark of fire that strikes from a good teacher to the spirit to youth, I would urge him to go to the teacher who has meant most to him and talk over a plan for his future. Counsel from good teachers in the Spring will be the determining force in shaping the life career of thousands of the year's high school graduates.

Personal contact is a potent force on every level of education. The mother devoting herself to the little child in her home, teaching by example and precept, illustrates the early stage of this mighty force. The high school or college teacher

who interests himself in the problem of his student and devotes himself not primarily to the solution of that problem but to the calling forth of that student's power, illustrates at a later stage, the value of personal contact.

The personal contacts which he enjoys in the home mean everything to the child; unless later on in school and college he find these personal contacts the course may mean little to him. The need for the right sort of personal contacts is everywhere recognized. Schools and colleges advertise the social and moral qualities of their teachers quite as freely as the scholastic. Intimate association with a good teacher has been the means of bringing out the best there was in many a man and woman influential in American affairs today.

Think back over your own experience in school. Recall your teachers. Some are completely forgotten, but two or three, perchance, stand clear in memory and will to your dying day because of what they meant to you *personally*. From those two or three you received the best of your education. You are glad now that they were enough interested in you to take the time to make your schooling significant. You hope too that your children will be fortunate enough to have just such personal contacts with some of the best of their teachers.

The better administrators in schools and colleges are aware of this hope of the parents; we would like to assure them of its realization, but the recent overcrowding of all our educational institutions makes this exceedingly difficult. The father or mother who was graduated from high school in a class of fifteen or twenty now struggles through a commencement crowd to see the son or daughter awarded a diploma in a class several hundred strong. No teacher, or dean, or principal, can know each of these students as the individuals in a class a generation ago were known. But as teachers and administrators we must try, so far as possible, to maintain that personal contact because it is the very essence of education.

To do this the high schools have engaged a number of relatively new officers; the assistant principal, the deans of

boys and of girls, the director of research, the personnel officer. All of these men and women are co-operating to the end that the school may know its individual students, that they may be wisely assigned to teacher-counsellors and that much of the best elements of personal contact may not be lost even in the larger schools.

In our colleges we are similarly engaged in an effort to prevent our numbers from destroying our effectiveness personally. The offices of admission are asking more questions about prospective Freshmen than were ever asked about their fathers; the personnel offices are seeking to evaluate more finely the students' abilities and proclivities; the deans' offices are accumulating data and the faculty meetings are concerned with policies. For, unless we can preserve the identity of each individual student, unless we as an institution know him and he knows personally some of us, he may be taking courses, gathering credits, but he assuredly is not securing an ideal education. The whole man needs development. His mind may be furnished by reading or lecture, but his social nature is warmed and his spiritual being inspired only by intimate contact with a good teacher.

A Non-Technical Discussion of Mental Testing

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AMONG many the belief is current that intelligence or mental testing is a new device. As a matter of fact, we can in this field trace active experimentation by psychologists as far back as 1890. To be sure, the early attempts were quite unlike the present day procedures. The first investigations were made almost entirely with simple sensory discrimination tests, such as pitch discrimination, reaction times, rapidity of naming colors, accuracy of movement as measured by striking dots with a pencil, memory as measured by four simple memory tests, strength of grip, rate of hand movement, and weight discrimination. These sensory tests were by no means successful, and the problem of measuring intelligence was not much nearer solution after the experimentation than before. However, it remained for Dr. Alfred Binet—author of the well known tests—to point out about 1900 that such simple devices were inadequate as measures of intelligence. It was his contention that an index of one's mental ability could best be obtained by measuring complex mental processes. Consequently he set about to devise an instrument which would, according to his theory, meet the needs.

During the first few years of this century there was a pronounced need for some objective means of differentiating the mentally defective from the normal. Parenthetically, it must be added here that we are not speaking of the insane. When we refer to the defective, we have in mind the individual whose mentality, because of hereditary or accidental causes, is retarded in development, rather than the insane person who is suffering because of deterioration or through some func-

tional disorder. The selection of those rightly belonging to the defective group was a matter on which very few agreed. Physicians differed among themselves and with teachers and school authorities, who themselves were by no means of one opinion. But it was necessary to find some method whereby the schools might select, with a fair degree of accuracy, those children who could not profit from ordinary school work. It was desirable to select these backward pupils as early as possible, instead of exposing them to school work for a number of years before discovering their limitations.

Thus it was in 1904 that Binet was appointed to a commission made up of medical men, educators, and scientists to formulate recommendations for the training of backward children. Naturally, the first problem which faced Binet, as a member of the commission, was the proper selection of defectives. As an outgrowth of this task, as he saw it, and also as a result of his views on how intelligence should be measured, we have his scales of 1905, 1908, and 1911, the last two being revisions and refinements of the first. There is, of course, nothing mysterious about the nature of the intelligence test. In fact, its simplicity is sometimes cause for disappointment to the layman who has been led, or who has led himself, to expect something beyond his comprehension. But perhaps we see an explanation for this apparent simplicity when we recall that Binet said, "The basic factor in intelligence is judgment, otherwise spoken of as good sense, practical judgment, initiative, the ability to adapt one's self. To judge well, to comprehend well, to reason well, these are the essentials of intelligence." Indeed the device employed by Binet and Simon, his collaborator, for measuring these abilities appears so simple that we wonder why it had not been thought of before, and we tend to underestimate its importance.

The work of Binet and Simon was closely followed, translated, and adapted for use in this and other countries. Although adaptation necessitated a few changes, the current

Binet revisions are essentially the Binet-Simon tests. But their acceptance in this country and abroad as instruments measuring innate ability has not been unchallenged. It is clear that if we are to examine one's ability to reason, to judge, to comprehend, or to adapt one's behavior, we must present to that individual certain materials. And here has been the source of much difficulty and the cause for extensive criticism, some of it unjustified or even "a priori".

One of the principal criticisms advanced against the Binet test in particular is that it is not truly a measure of innate intelligence but that it is instead an index of school learning, especially of one's ability to manipulate language. Therefore, argue these critics, to judge intelligence by means of the Binet and similar tests is to place a premium upon a certain environment and the opportunity for schooling, while an injustice is being done the individual who finds himself under less favorable circumstances. Whereas, they continue, we endeavor to gauge innate capacity, we are actually measuring learning.

There are, on the other hand, a group of proponents at the other extreme, who maintain that pure intelligence is being measured, that school work has no effect whatever on ability to perform well on the tests of intelligence. But it is not necessary to accept either one of these extreme viewpoints.

The selection of material for mental tests is difficult. We are prone to speak of pure intelligence and innate capacities without being altogether clear as to just what form intelligent behavior is to take. It sometimes appears from some discussions as though intelligence were regarded as an entity which acts merely by virtue of its existence; in other words, it just *is* and, therefore, just acts. It must be reasonably clear that intelligence and capacities cannot operate "in vacuo". We can understand them only through their manifestations, just as we measure and understand physical forces through their various manifestations. Now, the question is, just what manifestations are significant? What are their

relative values? How far may we expect certain manifestations to be common to a given group? Should we expect the same of all groups?

Binet and Simon and the psychologists who have experimented with and revised the original scales have answered these and other questions by including tests which will show one's memory span for digits and for sentences; others which indicate ability to see relations by putting together the elements of a picture and noting their qualities; still others which will demonstrate the subject's capacity for comprehending differences and similarities; and yet others intended to define his capacity for word definition, language comprehension, and for solving problems of behavior varying in degree of difficulty. These psychologists would defend the use of tests involving language by pointing out that in mental growth language mastery of some degree is the "sine qua non" of conceptual thinking, and that there are few more reliable indications of a subject's stage of intellectual maturity than his mastery of language. Furthermore, they will add, the tests require only those experiences which we may justifiably expect every child to have acquired in the course of a normal development.

Briefly, then, it may be said that the Binet and other tests are designed to measure the complex mental processes; they profess to require only such experiences as are common to individuals growing up in a normal environment, without reference to sex, social or financial conditions. Further, by presenting a large number and a good variety of test questions a much better index of mentality can be obtained than would be the case if the questions were few in number and uniform in kind.

But some objective method was needed for examining the contentions for or against the validity of the mental tests. Personal judgments must be discarded because they are prejudiced and inconsistent with themselves. As a result, psychologists turned to statistics, principally correlations and

regressions. A coefficient of correlation shows the degree of relationship existing between two sets of variables, or measures. A coefficient of regression is used in predicting the most likely score in one variable, or test, when the score in one or more others is known. Thus, if we can definitely establish the relationship which exists between specific school learning, thought some, we can then probably say how far these tests of intelligence are actually measures of innate abilities and to what extent they call upon information acquired in the school. And by means of regression equations and coefficients we can probably get an indication of what are the factors contributing to successful performance on these tests. It is not necessary for purposes of this discussion to have an understanding of the mathematical processes involved in arriving at these statistical indices. However, it is necessary only to appreciate the fact that some investigators were attempting to analyze the processes of the human mind by means of statistical formulas and on the basis of the mathematical results to say whether we are measuring the results of nature or nurture.

By no means do I wish to imply that statistical method has no place in the solution of psychological and educational problems. Without that method we should still be in the realm of personal speculation, colored by prejudices, resulting in a metaphysics of intelligence rather than in practical, highly valuable, and ingenious tests such as are today available. Without the tests and the statistical treatment of their results it is hardly conceivable that we would possess our present day knowledge of individual capacities and individual differences. However, it is essential to realize the limitations of statistical indices, to regard them chiefly as very helpful guides in the practical application of tests, and as making a definite contribution in the solution of some of the many problems connected with psychological tests.

One of the errors frequently made is to regard coefficients of correlation and regression as indicating causal relation-

ship, whereas they do not necessarily show such a relationship. It is true, if it is found on frequent and widespread repetitions of a given experiment that we discover a consistently high degree of relationship between two sets of measures, we might then infer some sort of causal relationship. But even so, whether that will be possible depends on the nature of the factors we are measuring. Consider, for example, the consistently high correspondence between individuals' school achievement and intelligence test scores. An adverse critic of the mental tests will maintain that the performance on the latter is due largely to specific achievement in the former. Others, and it seems with more justification, will hold that the reverse is true; that is, success in school work is due to general intellectual ability, and that the correspondence between scores of school and mental tests is attributable to the operation of the same mental factors. Of course, there are other considerations besides general intelligence which make for proficiency or lack of proficiency in scholarship as in vocations, such as traits of character, ethical discrimination, and health. But these aspects of the individual the mental tests do not even pretend to measure. Devices for gauging these qualities are still in a comparatively experimental and unsatisfactory state.

Over the particular question of the extent to which schooling affects the score on intelligence tests there exists much controversy. Somewhat more than five years ago a well known English pyschologist published a volume setting forth the results of extensive research with tests in English schools. Among other things he concluded on the strength of certain statistical findings that the Binet tests are really not measuring intelligence, but that instead they are measuring the extent of a child's school learning and the acquisition of similar information made possible by a favorable environment. This psychologist was widely quoted, and it almost seemed that knowledge growing out of earlier studies had been based on unsound hypotheses. In place of the Binet, the author fur-

ther suggests the use of a reasoning test which it is claimed is free from all influence of school learning. Clearly, when an investigator in any science comes out with new data casting serious doubt on views held by many, we may expect the experiment to be repeated. As far as I know this did not happen until last year in this country. And this repetition, in turn threw serious doubt on the conclusions of the English psychologist and on the advisability of replacing the Binet with the reasoning test. Through this recent American investigation it appears that much of the technique employed in the English experiment is questionable, particularly that aspect which is called "objective scoring." In psychological and educational measurement this term signifies scoring which is entirely free from personal judgment and prejudice. Objectivity in the field of measurements is perhaps the principal feature distinguishing scientific testing from haphazard examining and scoring. Scientific procedure demands a thorough standardization of the material used, rigid procedure in the application of the tests, and very definite scoring; for in any investigation a comparison of results is valid only if they have been obtained under like conditions. This is as essential in psychological and educational research as in the physical sciences, though more difficult of attainment. Here, then, we have a controversial question which has become even more controversial through repeated study. There is no doubt that the experiment needs further and wider repetition, for the matter is an important one.

But the author of the more recent study disagrees not alone with the results of the English study; he questions their interpretation, for the interpretation imputes to statistics analytical properties which are not present.

It might appear from what has preceded that mental testing is in a state of confusion and uncertainty, and that tests are valueless. But no such impression is warranted when all the facts are known. Tests of intelligence filled an essential need in the Army during the war; and because of

their successful application, the testing movement gained much impetus. But the good growing out of their employment in the Army has not been unalloyed. Many extravagant conclusions were based upon the results, not by the sound, thorough-going students, but by a number sufficient to create popular fancies and illusions. It seems that aside from their practical value in having met a definite need, the Army test findings are principally valuable as indicating a host of problems concerning intelligence which are yet to be solved.

However, mental tests are of unquestioned value for the teacher in helping her better to understand the capacity of the pupil. Through the use of tests one can, within certain limits, gain an idea of the rate at which a child is capable of advancing, of what his possible limit of development will be, of his special disabilities. For the school supervisor and principal, tests offer a definite criterion for estimating the value of methods of instruction, and for gauging the effectiveness of teachers, free from bias. The school superintendent is enabled by their use to study and present his problems—particularly to the school board and the community—in terms of specific fact, rather than by speculation and opinion. Surely, data properly gathered are far more convincing than what might otherwise be a superintendent's pet theories.

As aids in vocational guidance, mental tests are widely accepted. But this does not mean that if one takes an intelligence examination he can be told what his life work should be. Charlatans and some so-called counsellors, of course, are likely to make such claims for them. However, the results of an examination will indicate the *level* on which one most probably will do the required work successfully, but not the specific occupation. It is known, for instance, that the higher professions demand a certain level, the skilled trades and clerical work another, and the semi-skilled trades yet another. Thus, knowing the individual's level, we can within

limits suggest a course of training most likely to suit his capacities.

Tests of intelligence have made the selection of the feeble-minded a more nearly exact process. There need no longer be the confusion that existed a generation ago, and such as exists today among alienists testifying in court on the sanity of the defendant. Juvenile courts and departments of social welfare are enabled to deal with their cases in a more intelligent and more constructive manner.

Nevertheless, mental tests in the hands of the inexperienced, the enthusiast, or the charlatan are possible sources of danger. No test of mentality pretends to reveal character traits, emotional constitution, or specific vocational fitness. Mentality, as shown by a proper test, is one added field of information to be used in understanding the individual, more particularly the child. The psychological study of a child is approaching in method more and more the practice in medicine. Indeed the physical status of the subject is one aspect of a general examination.

It has been the purpose of this paper to indicate some characteristics of mental tests; to point out some of their shortcomings, but at the same time to make clear their unquestionable value. No doubt, many questions concerning intelligence are unanswered as yet, as, for example, the age when mental capacity ceases growing, and the best methods for getting an index of adult intelligence. Nor have we yet completely solved such problems as the relative weight of nature and nurture, the relationship between physical and mental growth, or how universally the tests may be applied. It is important for school officials and for workers in the field to know the limitations of the tests, but it is equally important for the layman and the hypocritical to refrain from disparagement and unwarranted criticism, because there can be little doubt that the injustices committed in the name of scientific testing are far outweighed by its many beneficial contributions. The nature of the tests will be constantly subject

to scrutiny; problems will be solved, with statistical indices regarded as an aid, but not as the solution itself; and as the whole movement continues in the hands of qualified investigators, we may look for a decrease of excesses and for increased benefit.

The Symbolism of the Colors

Old Glory: With ground of purest white.
Old Glory: Where red and blue unite.
The white for peace and purity,
For righteousness and truth:
And may its stainless glory be
Revered by age and youth.

Old Glory: With stripes of brightest red.
Old Glory: Wave for our hero dead.
The red for courage, valor, might,
That made our country free:
For honor, sacrifice and right,
For home and liberty.

Old Glory: With union ground of blue.
Old Glory: Thy statehood stars are true.
The blue for faith and loyalty,
For justice wise, sincere:
For hope and opportunity
To people far and near.

Old Glory: The ensign of our land.
Old Glory: We serve at thy command.
Thy colors wave for all mankind,
For peace and brotherhood;
Thy symbols are in hearts enshrined
In world-wide gratitude.

Robert Shailor Holmes,
Daytona Beach, Florida.

Teacher Estimates of Ability

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NO system has yet been devised by which the intelligence of an individual can be estimated by a general sizing up of facial features. The shape and size of the head seem to have little or no relationship to innate ability.

We can estimate intelligence with a fair degree of accuracy if we base our judgment on what the individual actually does. The experienced mathematics teacher can tell which of his students can succeed in mathematics and the approximate extent of his success. The language teacher soon discovers those who are lacking in language sense.

Great accuracy can be acquired in estimating intelligence if a definite effort is made to eliminate errors.

Errors in Estimating Intelligence

When teachers estimate the intelligence of their pupils these errors are common:—

(a) Teachers have difficulty in distinguishing real ability from accomplishment. Ability estimates are colored by what the pupil is actually doing in the course he is pursuing. The estimates are usually lower than the real ability because accomplishment is generally lower than native intelligence.

If a pupil is doing only passing work in plane geometry, the teacher rates him low in intelligence unless he appreciates the error he is committing. The pupil's real intelligence is shown on his best recitation, not on his poorest or average. It is possible to judge the ability of the disinterested loafer by looking for flashes of his real ability.

(b). A second common error in estimating ability is to ignore the age of the subject. How often do we find 12-year

old freshmen in high school being rated low when as a matter of fact they are two years accelerated. The 15-year old student in a class of younger children may be given the same rating as a 12-year old student. Their accomplishment may deserve the same score, but one is three years older and retarded. His ability is lower than that of the 12-year old who does work of the same quality.

(c) Language fluency is sometimes mistaken for knowledge of the subject and for high intelligence. We have all had experience with the boy or girl who can talk all around a subject and say little to the point. The experienced teacher soon recognizes this type, but the beginner is apt to mistake verbosity for knowledge.

(d) So long as we are more attracted to the pupil of pleasing personality and general appearance than to one less prepossessing, we will favor him in our estimates of ability. Favorable impressions made by such individuals remain a long time, even when they do poor work. The same psychology is at work when we score a poorly-written paper containing good thought lower than one well-written containing inferior thought.

(e) We are apt to ignore the difficulty of the subject-matter. The teacher of Latin estimates on the basis of ability to learn Latin. The teacher of bookkeeping on ability to do the work. If both individuals are rated B, obviously these grades do not mean the same thing, for one course is more difficult than the other. When a comparison of scores is being made this fact must be kept in mind.

(f) Accurate ratings cannot be made if we do not know our pupils. In high schools where classes range from 35 to 50 and where each teacher has 150 different pupils, a knowledge of each individual is not gained until late in the school year, and even then many pupils are not well enough known to the teacher that he may be sure in his judgments. Grade teachers are more apt to estimate correctly than high school

teachers because they have a better opportunity to become well acquainted with the ability of their pupils.

(g) The pupil who has not learned to read well is at a disadvantage and is rated low. When this difficulty is removed, his work at once improves. Reading difficulties are apt to be lost sight of in estimating ability.

(h) Like the pupil of poor personality, the pupil who gets into disciplinary difficulties receives a lower score than he deserves. Once a pupil is considered a school problem, we are likely to form a prejudice against him. It is a rare teacher who can separate scholarship grades from individual attitude. This was brought home to the writer recently when a student who was failed in a course received the highest College Board rating.

(i) Those who are repeating the grade or course are apt to receive higher ratings than they deserve. Student X was rated by all his teachers in either the A or the B group. All his psychological scores were low. Teachers questioned the scores. When all the facts were assembled, it was learned that X had passed in another school all the courses he was now pursuing. In the early weeks of the year he did well, but towards the end of the year his school performance agreed more nearly with his test scores. He was admitted to college, but failed to complete the freshman year.

(j) We are apt to make errors in our estimates if the accomplishment or training of pupils outside the class helps in their courses. Four teachers rated a student E, C, D, A in ability. Here was a wide range. The E was given by the mathematics instructor, the C by the history instructor, and the D by the English instructor. The French instructor gave the A. It transpired, however, that the boy came from a home where French was spoken, and his knowledge during the first months was helpful. All teachers rated this boy on the basis of ability to do their subjects, but the A was not a score of intelligence so much as of accomplishment.

(k) Children of foreign parentage sometimes receive low

scores because they have difficulty with the English language, and their real ability is hard to discover. The 13-year old son of a Russian nobleman was rated low in ability, yet in less than a year he was able to use the English language well, and before he was 15 was in the third year of the high school, standing near the top of his class even in English.

(l) Teachers err in their judgment because a technique of estimating is not at first established. When a well conceived plan is followed, many errors are eliminated.

Method Used in Securing Teacher Estimates

The teacher estimate scores used in this study were secured with great care. Before teacher estimates were submitted, all instructors were told of the errors that were likely to be present in their estimates if certain precautions were not taken, and the writer believes, in consequence, that many common errors were eliminated in securing the teacher estimates of ability here recorded. All men had at least five years' teaching experience. Classes numbered 15 or fewer, and no teacher had more than 75 different pupils. The estimates were submitted six weeks after the school term opened, and teachers thus had ample time to become well acquainted with the pupils in small groups. Teachers knew that they were to hand in teacher estimates, and during the early weeks of the school year made a special effort to learn the ability of each student.

In addition to such precautionary measures as have been outlined, a definite procedure was set up to secure accuracy. Each teacher was instructed to record the names of each of his boys on 3 x 5 cards, one card for each boy. He then selected from the entire group, boys who best exemplified the A, B, C, D and E types for given ages. All teachers estimated on the basis of ability to acquire the course in which

he was giving instruction. These A, B, C, D and E types became the measures for classifying the entire group into A, B, C, D and E groups with due consideration to the variations in ages. When he had distributed his 50 to 75 students into five groups, he then examined all the cards in group A and divided them into three groups corresponding to A plus, A, and A minus. After much critical examination certain A cards were no doubt distributed to the B group. He then divided the B boys into three groups, B plus, B, and B minus.

This analysis in certain instances resulted in assigning to the A group or to the C group some who formerly were classified in the B group. When each of the five groups had been sub-divided into three, the student list of each teacher consisted of 15 classes. The classifications were made on the basis of ability to acquire Latin, French or Physics, according to the subjects in which the student was enrolled. After the classification was completed, each boy was given the score of his group. Since most boys were enrolled in from four to six courses, the same number of teacher estimates of ability were available, each teacher estimating from the standpoint of his own subject. The individual teacher estimates were then averaged, after rejection of such estimates as were obviously incorrect, as, for instance, the A rating of the French boy referred to earlier in this paper. The composite score was recorded as the teacher estimate of intelligence.

The reader will note that these estimates partook of the character of the usual group psychological score, for here was a summation of mathematics, language, and all other abilities needed in college preparatory work.

Agreement Among Estimates.

In table 1 we are giving ten cases to show how individual estimates tend to agree and to show how closely the average agrees with each estimate.

TABLE 1

TEACHER ESTIMATES.

Student	*Age*	*Teacher Estimates of Ability*						
		1	2	3	4	5	6	*Average*
1	16-9	A—	A	B	B+	A		A—
2	18-3	C+	C+	B+	B	B		B—
3	16-6	B—	C—	C+	C	C+	C+	C+
4	17-2	B	B—	C+	A—	B+		B
5	21	C+	C	C	C	C—	C	C
6	16-9	C	B+	B	C—	B—		B—
7	18	D+	C	C+	C	C		C
8	18-11	D	E	D	D	D		D—
9	14-1	A	A	A—	B+	B+		A—
10	17-3	B+	B+	A	B+	A		A—

In many cases the agreement is not always so close, but seldom do we find teachers differing more than 10 grade points or one letter. Whenever there are greater differences, the pupil is one of those rare individuals who has ability to do one kind of school work and fails in another type, or the teacher has erred in his estimate.

We are giving in Figs. 1 and 2, two curves, one of 246 averaged estimates of ability and the other the average or corrected Otis A and B advanced test scores of the same boys. A glance shows there is agreement between these methods of rating intelligence. The correlation is 72 ± 2 which is high.

Summary

We called attention to the common errors in estimating intelligence and showed that many can be eliminated if the attention of teachers is directed toward avoiding them. More accurate estimating can be done when a uniform plan of estimating is followed by all teachers so that the scores have comparative value. The average of individual estimates gives a composite score which has the same characteristics as the group psychological score.

NOTE.—The data for this article were gathered by the writer when he was Headmaster of Huntington School, Boston.

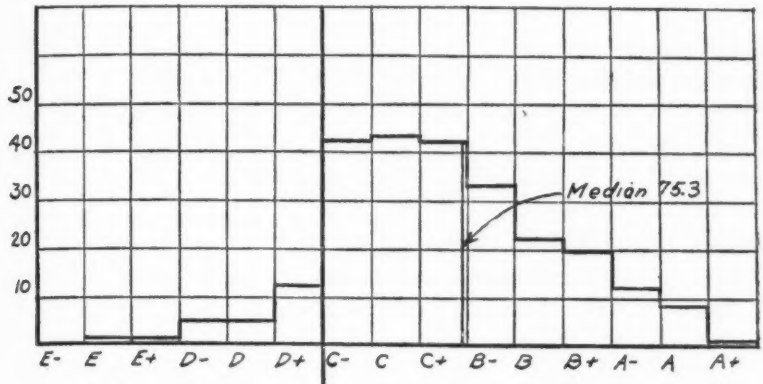

Fig. 1 - 246 Averaged teacher estimates of boys 18 and older A, B+ C groups considered college material The curve is not smooth at the C- point because doubtful cases were retained in the C- group.

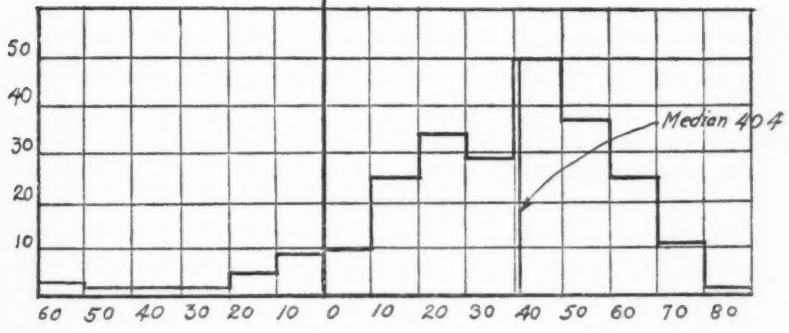

Fig. 2 - 246 Otis scores for the same boys plotted above We expect higher psychological ratings than teacher estimates which accounts for the median lying farther to the right.

"The Supervision of Instruction"

The Present Aim of the Supervisor

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"SUPERVISION of some kind is as old as American education, but supervision of the kind we are discussing today is yet in its infancy," writes Miss Fannie W. Dunn, Professor of Rural Education, Teachers' College, Columbia University. (1) But what is the kind of supervision which we are discussing today? What is the significance of the term? How has the meaning changed since the time of early American education? According to data, found in the current literature of the past five years, educators have changed their point of view and have come to a broader and more comprehensive judgment of the matter. "Supervision," wrote a superintendent of schools, "has too long meant narrow-visioned dictation and strait-jacketed response. Supervision has been based upon domination rather than inspiring leadership; upon fearful individual compliance, rather than whole-hearted group cooperation." (2) Quoting from Ellwood P. Cubberly, Professor of Education, Leland Stanford Junior University, supervision often "consists largely of inspection to see that the teachers are following instructions, and are making proper progress; while the examination and tabulation of the results of the examinations, and the charting of schools and teachers as to efficiency based on the results of such periodical tests, come in as an important part of the supervisory service." (3) Now in the newer sense of the word, the inspection side is the one which is not made the most important, but, following Dr. Dewey's philosophy that the "end of growth is more growth," the definition of the term, in the opinion of the majority of

educators of today is that supervision is the improvement of classroom instruction through the training of teachers in service. "Supervision represents a new profession and one which will in time play a very important part in the development of American life." (4) Existing for the teacher; (5) improving instruction through her training, having as its aim the progress of the pupil, yet keeping the teacher ever in the foreground, and through her, accomplishing this aim, the supervision of instruction "is concerned directly with the teaching performance and the conditions affecting it." (6) However, Charles A. Wagner, Superintendent of Schools, Chester, Pennsylvania, says, "Good supervision inspires the best teacher. . . . Supervision helps the new teacher most quickly into unity and harmony with the system. . . . Supervision helps the poorly trained teacher to become a better teacher, improving as rapidly as the teacher will exert herself." Thus we have two new thoughts added to our conception of the work of the supervisor of instruction, viz.: supervision inspires; supervision helps; and our definition now reads, "Supervision of instruction is the improvement of classroom instruction brought about by the training, inspiring and helping of teachers in service."

As yet but little distinction has been made between the duties of the supervisor and those of the administrator. The helping teacher "acts in the capacity of a supervisor and her duties in this respect are the same as those of the superintendent." (7) Yet in an article written by John M. Foote, State Supervisor of Rural and Elementary Schools for Louisiana, in 1922, is found a very clear distinction between the duties of these two offices. Following is a brief summary of the distinction as made by him: Administrative supervision, old as American education, provides the facilities of teaching, controls the school system, is more obvious and spectacular and has well-developed standards of excellence; whereas supervision of instruction, yet in infancy, is con-

(1) Numbers in parenthesis indicate references at end of article.

cerned with the teaching performance, aims to improve instruction, requires more intensive study and greater technical skill. (8) Concisely, then, the administrator is the executive and business manager and the supervisor of instruction is the intellectual manager and guide.

This point leads us to a consideration of the functions of the supervisor, and of the official who is to perform those duties. Referring to our definition, the first and most important function of the supervisor is that of improving instruction. (9) But how is this improvement to be accomplished? Again quoting from Miss Fannie W. Dunn, "The supervisor or helping teacher is the lieutenant whose special function is to lead, instruct, and inspire the teachers of the school system, so that they may be kept alive and growing and the quality of instruction may constantly improve." (10) The duty of the supervisor, then, is not coolly to inspect and to spy upon the work of the teacher but to "stimulate growth in the art of teaching." (11) She must be ready at all times to study the problems of the teacher, not to discover and emphasize the mistakes and faults in her teaching, not to criticize adversely, but constructively; to give help and direction where needed to attain the goals which have been set up by the cooperative work of the supervisor and teacher. (12) She must, by this help and direction, inspire the teacher to self-activity, realizing that it is not she who can make a teacher better, but that the teacher must herself grow better. (13)

Equally important among the functions of the supervisor is that of securing the coöperation of the teachers. In order to gain the greatest efficiency a "supervisory program must invite teacher participation in its development and application." (14) Furthermore, "the supervisor must meet teachers on a common level." (14) She must be ever ready to talk over plans for the betterment of the school, to arrange courses of study, and to discuss most recent methods of instruction.

Also, she must "help the teacher become more efficient in the selection and legitimate use of devices." (15)

Another essential duty of supervision is that of training teachers. According to Profesosr A. G. Yawberg, County Superintendent of Schools, Cleveland, Ohio, there are three methods of accomplishing this purpose, the destructive-constructive, the appreciative and the stimulative methods. Under the destructive-constructive method comes that of diagnosing the work of the teacher, as seen by the supervisor, of finding the weakest points, and of improving these points by substituting better methods. The appreciative method encourages the teacher by bringing to notice the good points of her work. The stimulative method consists in providing inspiration for future teaching. The conference, individual, professional and non-professional, it is agreed by the majority of educators, is the best means of providing inspiration. Much can be gained from the individual, personal conference, in which the teacher and supervisor talk over what has been done after the work has been observed. By the professional conference is meant the "teachers' meeting" where methods, plans and problems of a professional type are discussed. In the non-professional meeting topics of the day are debated and often a social hour is enjoyed in which school matters are avoided. Summing up all the functions of the supervisor, then, it must be kept in mind that the "most important work of the supervisor is to continue the education of the teacher beyond her normal school or college training and to bring to her attention improvements in methods and technique of education." (16)

With these duties in mind we are ready for the second question: Who is to be the supervisor? Is it to be the superintendent of schools, the school principal, the supervisor of special subjects, or the regional supervisor? Considering, first, the superintendent, we find that the primary function of that officer seems to be the supervision of instruction. But does this always prove true? Does he have adequate

time for this work? That the superintendent should be the best teacher in the system was stressed at the mid-winter conference of the Connecticut State Supervising Agents, held at Hartford, Connecticut, December 27, 28, 29, 1923. (17) It was, in fact, at this meeting that the Director of Elementary and Secondary Education and Normal Schools of Massachusetts, Frank W. Wright, said, "The superintendent should know more about the principles of teaching than any teacher in his system." (17) But, to know the principles of teaching should not be all that is required. The superintendent should help his teachers with this knowledge. His "visit to the classroom ought to be an occasion to which teachers and pupils look forward with pleasant anticipation. He must praise judiciously and suggest lines for advancement." (18) But, is the superintendent, with his many administrative duties, able to accomplish this? Is he able to spend sufficient time in the classroom to understand thoroughly the problems of the teacher? In order that supervision may be effective, the supervisor must spend enough time in the room to see and to comprehend what the teacher is trying to do. (19) According to the late Dr. James VanSickle, former Superintendent of Schools, Springfield, Mass., the duties of superintendents are chiefly administrative and are manifold. (20) Dr. E. E. Oberholtzer, former Superintendent of Schools, Tulsa, Oklahoma, furthermore, declares that there are "many conflicting conditions which prevent them from doing expert supervision." (21) And because he has such an amount of administrative work to do; because he necessarily must have such a wide range of schools in his charge, his work of improving instruction must be through supervisors. (22) Let the "supervisory staff become both sensory and motor nerves to the superintendent". (23)

In consequence of this situation much has been written concerning the school principal as a supervisor. One of the causes of the failure of the supervisory system of Portland, Oregon, as stated by Dr. E. P. Cubberly, was that the prin-

cipals in that system were found to be poor supervisors. But the reason for this, he affirms, was that "pressure to become helpful, personal, and educational leaders, rather than inspectors and custodians has never been put seriously on them from above." (24) Again, as in the case of the superintendent, does the school principal have the time and training for effective supervision? It is true that the "principal is closest to the work," (25) but it must be remembered that he has, also, many administrative, professional and even social duties. (26) He cannot, therefore, give, as he should, (27) the greater part of his time to visiting and to supervision. Furthermore, according to Professor C. E. Marston, Woodland School, Kansas City, Missouri, "few principals are trained in supervision," and the general opinion of the educational writers of the day seems to be, that principals, because of their many routine tasks, which might better be done by clerical assistants, and because of inadequate technical training, do not have the time for clear thinking and planning so necessary for effective supervision. Dr. Franklin W. Johnson, Teachers' College, Columbia University, states the case clearly when he says, "the principal is not only a busy but a confused man in the midst of administrative details which clamor for attention, but which, in the aggregate, are quite too numerous to receive his personal attention." (28) If, then, these duties are so numerous what time is left for supervision?

Very little has been written concerning the supervisor of special subjects as an efficient agent of the supervision of instruction. Dr. Cubberly, in his "Portland Survey," found that the best work in the system was done by these supervisors, and that "the work in most of the special subjects seemed to possess life and spirit" (29) since it was "largely freed from rules, regularity, uniformity and inspection. (29) Yet, in reading further, such statements as the following are found: The course of study is better adapted with one supervisor. Subjects should be correlated. This correlation is im-

possible where there are a number of supervisors. Too much time may be spent on one subject. (30) "The supervisor who is in charge of all the work in her district sees the rural school as a unit. Such a supervisor is better able to estimate relative values and prevent her teachers from losing their poise in becoming too enthusiastic over one subject." (31) "In dealing with supervisors or directors of special subjects or departments we find that few of them have the perspective of the whole school program, or the scientific training which reaches into the various fields and interests that lie outside the special subject." (32) Therefore, with these thoughts in mind, is the special supervisor able to accomplish the aim of supervision? Can she gain a unity in the system, necessary to the improvement of instruction? May there not be a tendency to develop a supervisory system consisting of too many different individuals, thereby defeating its own function by having too great a variety of aims? (33)

Yet, "unity of purpose and coöperation can only be obtained by supervision," states Jesse H. Newlon, Superintendent of Schools, Denver, Colorado. And so we discover that the concensus of opinion points to the fact that the regional supervisor has proved the most successful. This type of helping teacher, who has all, or if this makes too large a unit, part of the schools or grades in a system in her charge, studies and understands all the conditions pertaining to those schools or grades, therefore can help the teachers to do better, more efficient work and aid them in solving their numerous problems. Also, she helps to make the daily program, to classify and to grade the pupils. She does not have many administrative or routine duties to which to attend, therefore can give the greater percentage of her time to the improvement of instruction. To this opinion there has been raised the objection that the work of supervising all the subjects of the curriculum is too great a task for one individual. But this is adequately answered by Professor E. K. Rucker, Rural School Supervisor, Dorchester County, Cambridge, Mary-

land, who says, "The task of the supervisor is no heavier than that which her teachers are meeting in many places with very little assistance." (34) The county, it is agreed by the majority, is the most successful unit of organization, and "any unit smaller than the county is not conductive to proper supervision." (35) With this form of organization a county board of education employs the supervisors who travel over the county, visiting and directing all the schools in that county. (36) In this way, the supervisor preserves a unity and coöperation in the school system throughout the county.

It has been found that there is more efficient supervision over city than over rural school systems. As education progressed in the past, city schools were consolidated, the office of school principal was developed, the need of supervision made itself felt, (37) and the office of the superintendent was established, until now there is found an elaborate city school system, having as its head the superintendent, and assistant superintendents, whose chief functions are first, supervisory, second, executive, or administrative, and third, as the organizers and directors of educational policy. (38) But whatever requirements the superintendent may make for the better preparation of his teachers, the teaching force needs the stimulation of helpful supervision to improve the classroom instruction if the schools are to render good service. (39) In all school systems the teaching force is a rapidly changing one, and the "normal school graduate requires much help at first to adjust herself properly to the work of a city school system, and to enable her in the course of four or five years to reach a maximum of efficiency with a minimum of mistakes and struggle. The teacher with no professional training needs much more personal attention." (40) But very rarely is there found in the city a teacher with no professional training. In her article, "Supervision of One Teacher Schools," Miss Maude C. Newbury, Assistant in Rural Education, United States Bureau of Education, gives the following

data: "In cities of eight thousand population and over, seventy-five per cent of the elementary teachers are normal school graduates, and ten per cent have received one year of normal school or college training. Boards of education in cities of one hundred thousand population and over, in addition to employing a city superintendent and a corps of clerical assistants, engage one general supervisor for every twenty teachers and a special supervisor for every fifty teachers."

It has been found that this lack of professional training is greatest among the rural schools. Statistics show that "rural teachers represent the most inexperienced, the least adequately trained and the least skilled group of teachers"; (41) that only between three and four per cent of the rural teachers have had any professional training; (42) in only six states are rural supervisors employed throughout the state; (43) that rural teachers receive very little help from county or district superintendents as the latter's time for visiting is very limited; (44) that the teaching force of the rural school looked upon, as it is, with disfavor by the trained or experienced teacher, is a rapidly changing force, the length of service of one teacher averaging one and three-tenths years, and that these rapid changes greatly handicap the work of the school; (45) that some form of teacher training is necessary where there is an "annual demand for ninety thousand rural teachers and a rural output from the normal schools of less than two per cent of the demand." (46) Trained teachers, experienced teachers, will not serve in the rural communities. There are too many inconveniences, too many difficulties entailed in the position, and salaries are too meager, although, on the other hand, there is not a better place for a teacher to exercise freedom, initiative, and to develop originality, and nowhere has she so good a "chance of avoiding mediocrity and running in a rut." (47) Nevertheless, although here is where it is most needed, "one of the greatest weaknesses of the rural school system," says Dr. Benjamin J. Burris, Supervisor of Public Instruction, Indi-

anapolis, Indiana, "is a lack of expert guidance." And it is found, in consulting other educators, that this is a nearly universal opinion.

And now when we think of this great need in the rural school, and the lack of "competent supervision," may the broader meaning of the term be remembered and applied: supervision is the improvement of instruction through the training, the inspiring, and the helping of teachers in service. The "helping teacher" is, in truth, an aid, one who works with appreciation of, and in sympathy with the efforts of the teacher; one who brings new ideas, higher ideals, inspiration and new life to the teaching profession; who is not present to criticize adversely but constructively; who brings about a unity and coöperation in the entire system; who is authoritative; who has a regular schedule for visiting and who makes that visit long enough to see and to appreciate the work and the problems of the teacher, and to be able, in the conference which follows the observation to offer intelligently bits of advice and suggestions for improvement. She must not be hindered by too many details of office routine, nor by administrative duties, as it is only by clear thinking and planning that she can do the most efficient work. Supervision, then, need not and will not be a failure, if uniformity, and the inspectional and mechanical aspects are given less attention and if, in their places, supervision that is characterized by unity, coöperation and inspiration is substituted.

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American Notes—Editorial

The Pros and Cons of the Teacher's job! That there are such is unfortunate,—but unquestionable. Teaching is distinctively a human job. And humanity is still in the making. We have to take it as it is and make the best of it. The only human job we know of that has no "cons" in or about it is the other fellow's when he "beats us to it." And after a little while even that job is apt to develop unforeseen difficulties and annoyances. Therefore it is far better for the teacher to magnify the pros and minimize the cons, and cheerfully go forward. An imperturbable spirit is the best remedy for all sorts of difficulties in all kinds of situations. We know of no employment in which it counts for more than in administration and teaching in public and private educational institutions.

Leaving it to the reader, however, to con over the cons as the said reader may please, we proceed to the happier and more rewarding task of pointing out some of the redeeming pros of teaching.

First, we note that teaching is a work with living, sentient and, presumably, improvable beings. To realize the advantages of such an employment compare it with the job of running a machine that goes by steam or electricity for eight or ten hours a day, week in and week out, turning out shoe buttons! Each button is exactly like its fellow shoe button. Your job is just to keep the machine greased and going until the bell rings. That is all. You have accomplished at the end of the day, or week, or month, or year,—so far as the eye can see, just a pile of shoe buttons.

There are many occupations like that. We would not belittle any trustworthy workman's faithfulness in sticking to his job of making shoe buttons. But compare his job, well done, with the teacher's job equally well done and we submit that the latter is infinitely more interesting and inspiring. Why so? Let us point out some reasons why!

The teacher's job constantly calls for an instantaneous exercise of (1) *Comprehension.* The recipient of his attention, viz., the pupil, is a far more complicated affair than the machine of the button maker. The latter workman makes just about the same (physical) motions day after day and year after year, until they become automatic. Practically, he becomes almost a mechanical automaton. He could do his work with his eyes shut; and, without thought of what he is doing, he will probably do fairly well what he is hired to do. The teacher, however, is otherwise. The true teacher is alive, conscious, alert. The true teacher comprehends, at all times

the subtle exercise of personality, which has so much to do with good teaching. He must know, thoroughly, not only his subject,—and be able to explain it. He must be inspired by it. He must comprehend things invisible,—the nature of mind, the tendencies of the emotions, the reactions of truth and error in the understanding and in the spirit of his pupils. These are the differences between the jobs of the manual and the mental workers. These differences cannot be overlooked and neglected.

(2) *Concentration.* The task of the teacher is one that requires quick, unerring, subtle understanding, followed by appropriate expression in words of instruction, and approval or disapproval. The task of teaching allows of no inattention. Truth is truth. Error is error. They must be branded, in the classroom. There must be no uncertainty on matters of fact. The teacher may not necessarily be continually keyed up to correct on the spot every incorrect statement. But he must know how things are going with each pupil, and must concentrate his observation of the needs of the class and make his teaching effective by requiring each pupil to stick to the job of learning. The atmosphere must be clear and clarifying.

(3) *Inspiration.* This endowment of the truly great teacher must be thought of largely as a "gift of the Gods." It is dissipated more or less, if we consciously and presumptuously seek after it. But we may be glad and grateful when we either receive or impart. It comes from self-forgetful devotion to duty, and earnestness. It is the highest reward of true teaching.

Perhaps some reader of this number of EDUCATION may be considering, as school or college "Commencement" is being celebrated, the great and ever recurring question "What shall I do next?" If so, we suggest the great task of teaching. There is no other task that is greater, more useful, more honorable.

The Commission on Secondary Schools of the Association of Colleges and Secondary Schools of the Middle States and Maryland met on April 2nd at the Hotel Pennsylvania, Philadelphia. The membership of the Commission consists of eleven distinguished Educators of New York, Pennsylvania and Maryland.

A definite statement of policy and general administrative procedure was formulated and adopted. Each state committee will consist of a resident member of the Commission, a public high school principal, a private secondary school headmaster, a registrar or director of admissions of a higher institution, a Professor of Secondary Education, a member of the State Department in charge of Secondary Education, and the Chairman of the Commission, ex-officio. New

Jersey, Delaware, Maryland, and the District of Columbia will each have a state committee as indicated; New York and Pennsylvania will each have two state committees, the State Department official and the Chairman of the Commission serving on both committees.

Because of the great increase in college and university enrollment within the past few years, there is imperative need for an accredited list that will aid the secondary schools in establishing contacts with higher institutions. There is need also for an active agency to study the problems confronting the secondary schools of the Middle States territory, such as (1) articulating secondary and high schools, (2) establishing and maintaining an accredited list, and (3) promoting research for the solution of problems in secondary education in the region represented by the Association.

A central office has been established for the Commission and placed in direct charge of the Chairman. Much preliminary work has been done. A complete directory consisting of 3,393 public and private secondary schools has been compiled. This large number of schools reveals the extent of the problem of accrediting in this territory. Information concerning any phase of the work may be secured by communicating with the Chairman of the Commission on Secondary Schools, 109 Bennett Hall, University of Pennsylvania, Philadelphia.

Typical investigations of the extent of malnutrition among children indicate that from one-fourth to one-third of the children in the United States are definitely malnourished and that the number of children of really superior nutrition is small, according to a report which has just been published by the Children's Bureau of the U. S. Department of Labor under the title, "What is Malnutrition?" Written by Lydia J. Roberts, this bulletin was published first in 1919. Since then, however, much material has been made available by research on various aspects of the problem of the nutrition of children. The bureau has revised its bulletin in the light of these later studies, in an effort to assist parents, teachers, social workers, and others responsible for the welfare of children in recognizing and combating a condition which is so widespread that it is declared by the report to be "scarcely recognized as an abnormal condition."

Why are there so many children below par? Evidently they were not "just born that way," for the studies of malnourished children show that in the great majority of cases they started life in normal physical condition. Given this start they should have developed into healthy, robust children. That they failed to do so indicates that something was wrong with their diet and mode of living.

Improper or inadequate diet, lack of sleep, too little out-door play, fresh air, and sunshine, overexertion due to too much work or too strenuous play, and physical defects such as bad teeth, tonsils, or adenoids are listed among the causes of malnutrition. But this gives rise to another question: Why are children improperly fed? Why do they have too little sleep? Why are bad tonsils, teeth, or adenoids not attended to? The answer, according to the report, seems to be that ignorance, lack of parental control and poverty, singly or together, are the causes underlying these bad conditions.

Parents come in for a heavy share of blame. Abundant evidence has been found to show that ignorance and lack of parental control are more important causes of malnutrition than poverty.

School lunches, health education programs in the schools, and regular weighing and medical examination of school children are important factors in checking malnutrition.

But if the mothers and fathers of the country think that they can shift the responsibility for their child's health to the school they are much mistaken, it seems. It is their duty to see that the child is in good physical condition when he enters school. The Children's Bureau says that it is during the preschool years that malnutrition becomes evident, and yet this is the most "neglected age." Efforts are now being made to attract attention to the need for care and regular medical examinations in order to insure the health and welfare of the preschool child. Child health centers, habit clinics, nursery schools, home demonstration work and many other agencies are cooperating to this end.

An impressive peace movement is afforded by the following item, just received.

International Friendship among Children

The children of the Junior Red Cross in two countries—one in the Near East and one in the Orient—have given expression to their feelings of international friendliness through gifts to the children of other countries. Those of the children of Greece took the unique form of prettily decorated boxes of sweet Greek currants, sent to school children all over the United States in recognition of the Christmas boxes sent yearly by children of the Junior Red Cross of the United States to the children of Greece.

The children of Japan are now dressing dolls for children of the United States and nine other countries, carrying further the idea expressed by the thousands of doll "messengers of friendship" sent to Japanese children in February by children of the United States.

Book Reviews

CHINA. *A Commercial and Industrial Handbook.* $1.75. The world wide interest in China—an interest sustained not so much by political developments as by China's growing importance to the commercial and economic progress of all trading nations—has resulted in a widespread demand for a comprehensive publication covering the varied phases of the country's activities. Competition for China's trade has grown keener every year since the World War. American trade with China, valued at only $64,000,000 in 1914, grew to more than $263,000,000 in 1925, despite seriously detrimental conditions. An extensive compilation by Commercial Attaché Julean Arnold, Shanghai, presents not only first-hand observations and experiences, extending over 20 years, but also reports from other American Government representatives abroad and authorities on special subjects. Valuable general information from two previous handbooks has been retained. Address Superintendent of Documents, Government Printing Office, Washington, D. C.

READINGS WITH A PURPOSE. The Life of Christ. By Rufus M. Jones. The American Library Association.

AN INTRODUCTION TO THE STUDY OF FRENCH. By Otto F. Bond. The University of Chicago Press; THE MEASUREMENT OF INTELLIGENCE BY DRAWINGS; by Florence L. Goodenough, Ph.D. The World Book Company. And Alexandre Dumas, Pere Henri III, Et Sa Cour. Edited with Introduction and Notes by Maurice Baudin and Edgar Ewing Bradon. The Oxford University Press.

Report of the Librarian of Congress. For The Fiscal Year ending June 30, 1925. Washington. Government Printing Office.

VOCATIONAL GUIDANCE OF COLLEGE STUDENTS. By Lewis Adams Maverick, of the Southern Branch of the University of California. The Harvard University Press. $2.50. A notable addition to the literature on this subject. It recognizes the fact that colleges can effectively and wisely contribute to their larger purpose of equipping their students to live their lives to the fullest and most fruitful extent, by wise and sympathetic vocational guidance.

EDUCATING FOR A CHANGING CIVILIZATION. By William Heard Kilpatrick. Three lectures on the Luther Laflin Kellogg Foundations at Rutgers University, 1926. An Introduction is followed by "The Nature of Our Changing Civilization; The Demands of Education; The Changed Education." Any thoughtful person interested in worthwhile things will find these discussions useful and stimulating.

SHORT STORIES OF FAMOUS MEN. By James J. Reynolds and Mary A. Horn. Noble and Noble, publishers. $1.00.

A real addition to the supplementary readers for the grades. The stories are true and inspiring experiences and achievements of real men. They set examples and develop ideals in the minds of the pupils using them. This indirect moral and inspirational teaching is far more effective than any lecturing or admonishing that either parents or teachers might think to be necessary. The stories have been carefully selected. The print is large and clear; the language is simple. The price is low. What more could the "Committee" desire?

The Atlantic Readers: Book One. THE UNDERSTANDING PRINCE. By Randall J. Condon. For Grade V. Little, Brown and Company.

This is one of a series of Readers which has made a name for the books, the editor, and the publishers. The standard is suggested by the following sentence in the "Foreword" of this particular volume, as follows: "There was never a time when the schools needed more than now to re-examine what they are teaching and the way they are teaching, to the end that emphasis may be placed where it belongs, upon life and the things that make for useful and worthy living." The Atlantic Readers present fresh material that deepens the sense of moral truth and inspires to action. A few moments' examination will show this to be the aim. The English, also, is in all respects pure and admirable. Everything has been thought of and provided to make the series the best possible. Every book in the series is a gem of truth, purity and interest.

HISTORICAL SKETCH OF BOOKBINDING AS AN ART. By Meiric K. Dutton. The Holliston Mills, Inc. An interesting account of the progress of this important industry, to which the schools owe a large part of their interest and success. The publishers' address: Norwood, Mass.

THE VALUE OF THRIFT. By Edmund Dane, LL.B. G. P. Putnam's Sons. 90 cents. What money is; how to make it a servant, not a master; and many other things worth knowing, are pleasantly set forth in this little volume. It should have a place in every school and every home.

From The Macmillan Company: A LABORATORY MANUAL OF HIGH SCHOOL GEOGRAPHY, by E. E. Ramsey, A.M., and J. A. Price, A.M. It gives Exercises in Mathematical Geography, Maps, Study of Rocks, River Systems, Plains and Mountains, Coast Lines, etc. A very valuable manual for advanced students in this fascinating study.

THE PATRICIAN. By John Galesworthy. In the Modern Student's Library. Also, HISTORY AND THE OTHER SOCIAL STUDIES IN THE JUNIOR HIGH SCHOOL. By Daniel C. Knowlton. These are suggestive titles of useful volumes from the press of Charles Scribner's Sons. The latter has a number of pleasing illustrations, and the text is helpfully interesting.

TALES OF MANY FOLK. Retold by Georgene Faulkner. Illustrations by Vera Clere. Charles Scribner's Sons. Price 80 cents. The "Tales" have been gathered from many lands, and are worth while. The make-up is fully up to the standard of all the work of the Scribners. And, by the same publishers we have, "A YEAR IN THE WONDERLAND OF TREES," by Hallam Hawksworth (Francis B. Atkinson). With drawings by Lora Palmer Atkinson and many other illustrations. This book is one of the "Strange Adventures in Nature's Wonderlands" series. The illustrations are particularly fine; the text will interest the student in nature and nature-study. Still again, by the Scribners, we have WHAT EUROPE GAVE TO AMERICA, by Charles A. Coulomb, Albert E. McKinley and Holman White. Each of these authors is a well-known educator in Pennsylvania, and the book reflects their scholarly ability and knowledge of what is required in the elementary school as a preparation to later and more detailed study courses in high school and college. And still again by Scribners, TRAINING IN CITIZENSHIP, by Roy Winthrop Hatch, with a "foreword" by William H. Kilpatrick. This is an interesting book of information, inspiration and reference. Excellent suggestions are given as to "projects" and the "project-method," which is so particularly helpful in this field of study.

GENERAL HIGH SCHOOL MATHEMATICS. Book II. By D. E. Smith, J. A. Foberg, and W. D. Reeve. Ginn and Company.

This is a good book for those who take only two years of mathematics but would like some acquaintance with things beyond plane geometry. Its contents, while largely plane geometry, include such topics as Logarithms, Trigonometry, Lines and Planes in Space, Polyhedrons and Round Bodies. The page in geometry has reasons between the lines of proof, no numbered steps, and a suggestion or two as to the plan of proof before the proof is taken up. An introductory statement is usually at the top of the page just preceding the theorem statement. The figure is at the right of the page and, when extra lines are drawn, a second figure is sometimes used. Most of the proofs are printed in full. There are many summaries and tests of various kinds. A good piece of work is the preparatory discussion before each of six theorems at the beginning of the book.—Robert R. Goff.

A MODERN GERMAN GRAMMAR. By Peter Hagboldt and F. W. Kaufmann. $1.85. The University of Chicago Press. This book has many features that are new and according to the latest developments of theoretical and practical teaching. It reduces grammar to its minimum essentials and sets the student upon his own feet, so to speak, in the intelligent and effective comprehension and use of the German language.

From Charles Scribner's Sons: THE VOCABULARY SPELLER. Books 1 and 2. By John G. Gilmartin, Principal of the Croft School, Waterbury, Conn.

JUNIOR RATIONAL TYPEWRITING. By Rupert P. Sorelle. The Gregg Publishing Company. Especially intended to meet the requirements of the Junior High Schools. By its use an average pupil may be expected to have a very good command of the keyboard, to be able to type accurately, and to have a correct technique. Speed will gradually increase.

From E. P. Dutton & Company: PROCRUSTES, OR THE FUTURE OF ENGLISH EDUCATION. By M. Alderton Pink, M.A. $1.00. The present standards and practices of our schools and colleges are challenged in this little book. Every child is to be tested at eleven years or thereabouts, and it will be decided whether he is to be given further instruction of a secondary character or not. Those of the required standard will be sent on to the secondary schools at eleven, plus. The others will remain in the primary schools until fourteen and will then be set at work, some of the best of them in trades or the humbler ranks of business, and those of very low intelligence will receive no further teaching but will go straight into industry. The above sentences are practically copied from the book itself; which book one would be inclined to believe was published in Russia.

From Beckley-Cardy Company: ADVENTURES IN STORYLAND. This is an attractive Primer, by Frances Lillian Taylor. Illustrations by Clara Atwood Fitts. Price 60 cents. By the same publishers: A PET READER, by Edith Lawson, A.B. Beautifully illustrated by Ludwig Regina and Leone Schwem. 70 cents.

From The Oxford University Press: THE GATEWAY TO ENGLISH, by H. A. Treble, M.A., and G. H. Vallins, B.A. 85 cents. Treats of Grammar and the Simple Essay. Also, by the same publishers, in the "Lingua Latina" Series: NOCTUINUS. Dramatic Dialogues. By R. B. Appleton. 60 cents. And A NEW EXPERIMENTAL SCIENCE, by J. G. Frewin. 50 cents.